INDEX

DOKLADY BOTANICAL SCIENCES

Vols. 154-159, 1964

DOKLADY BOTANICAL SCIENCES

Vols. 154-159, 1964

(A translation of Doklady Akademii Nauk SSSR)

A

Abrarov, A. A. - 180
Afanas'eva, E. M. - 144
Aksenova, V. A. - 157
Akulovich, N. K. - 69
Aleksandrov, V. G. - 1
Aleksandrova, A. Z. - 203
Alekseeva, Kh. A. - 59
Aliev, D. A. - 54
Alkhazov, D. G. - 20
Andreenko, S. S. - 35
Antropova, T. A. - 33

B

Babushkin, L. N. - 40
Baslavskaya, S. S. - 43
Bazhanova, N. V. - 20
Bazilevich, N. I. - 114
Belostokov, G. P. - 109
Bystrova, E. I. - 43

C

Chailakhyan, M. Kh. - 130, 222, 226
Chernenko, E. S. - 65

D

Daletskaya, T. V. - 78
Davydova, M. A. - 165
Dobrotvorskaya, A. V. - 1
Dorokhov, B. L. - 26, 85

E

Éidel'man, Z. M. - 20, 172

F

Fam Suan Kkhae, - 126
Fel'dman, N. L. - 137

G

Gamburg, K. Z. - 24
Gavrilenko, V. F. - 92
Girshin, A. B. - 20
Godnev, T. N. - 69
Gorlenko, M. V. - 8
Grineva, G. M. - 95
Gunar, I. I. - 187
Guzhova, N. V. - 92

I

Il'inykh, Z. G. - 28
Ivanova, T. M. - 165
Ivanovskaya, E. V. - 118

K

Kamentseva, I. E. - 137
Karanov, É. - 88
Karmanov, V. G. - 16
Karpov, V. G. - 51
Kashuro, V. F. - 169
Kaverina, A. V. - 206
Kazanskii, L. P. - 13
Khavkin, É. E. - 72
Khodasevich, É. V. - 69
Khodasevich, S. G. - 38
Khodorenko, L. A. - 82
Khodzhaev, A. S. - 172
Kholler, V. A. - 184
Kislyuk, N. M. - 190
Kodaneva, R. P. - 134
Korchagina, O. A. - 56
Kosulina, L. G. - 35
Koval'skii, V. V. - 198
V. M. Kutyurin - 13, 122, 148
Kuznetsov, L. V. - 8

L

Lemberg, I. Kh. - 20
Lipsits, D. V. - 161
Lobov, V. P. - 208
Lomagin, A. G. - 33, 151
Lozhnikova, V. N. - 130

M

Maevskaya, A. N. - 59
Mal'tseva, V. N. - 24
Maslova, T. G. - 20
Matveeva, I. V. - 148
Mikhilov, A. P. - 177
Mokhnach, V. O. - 33
Mokronosov, A. T. - 28
Molotkovskii, Yu. G. - 169
Moshkov, E. S. - 177
Mosolov, I. V. - 61

N

Nazarov, N. M. - 122, 148
Nekrasova, T. V. - 222
Novitskaya, G. V. - 206

O

Ozolina, I. A. - 187

P

Peshkov, M. A. - 4
Petinov, N. S. - 180
Petrunina, N. S. - 198
Pleshkov, B. P. - 126
Podol'nyi, V. Z. - 194
Popova, I. A. - 20
Popova, O. F. - 20
Popova, O. N. - 134
Potapov, M. I. - 192
Potapov, N. G. - 35, 209
Potselueva, V. G. - 10
Pyl'neva, P. N. - 61

R

Rogacheva, A. Ya. - 184
Rodin, L. E. - 114
Rodionova, G. B. - 4
Ross, Yu. - 140
Rubin, B. A. - 92, 165

S

Saakov, V. S. - 20
Sakharova, O. V. - 154
Salamatova, T. S. - 209
Salyaev, R. K. - 174
Sapozhnikov, D. I. - 20, 154
Savin, V. N. - 16, 218
Semenyuk, K. N. - 148
Shcherbukhin, V. D. - 144
Shcherbukina, N. K. - 144
Shiryaeva, G. A. - 20
Shukhtina, G. G. - 33
Shul'gin, I. A. - 82, 194

Sinyukhin, A. M. - 187
Skazkin, F. D. - 203
Sobachkina, L. N. - 216
Stanko, S. A. - 103
Stepanenko, B. N. - 144

U

Ulubekova, M. V. - 13, 122

V

Van Sha-Shén, - 76
Vartapetyan, B. B. - 213
Vasil'ev, G. - 88
Vavilov, P. P. - 134
Velichko, I. M. - 49
Vereshchagin, A. G. - 206
Volkov, G. A. - 47
Volodarskii, N. I. - 10

Y

Yakovleva, V. V. - 216

Z

Zavadskaya, I. G. - 137
Zhdanova, L. P. - 100
Zholkevich, V. N. - 184

DOKLADY BOTANICAL SCIENCES

PROCEEDINGS of the
ACADEMY OF SCIENCES
of the USSR

A translation of **DOKLADY AKADEMII NAUK SSSR**
A publication of the Academy of Sciences of the USSR

© 1965 CONSULTANTS BUREAU ENTERPRISES, INC.
227 West 17th Street, New York 11, N. Y.

Volumes 154-156 **January-June, 1964**

CONTENTS

	PAGE	RUSS. ISSUE	RUSS. PAGE
VOLUME 154, 1964			
BOTANY			
On the Characteristics of Bud Organization in Flowering Plants—V. G. Aleksandrov and A. V. Dobrotvorskaya	1	1	226
Caryological Features of the Reproduction of Chlorella vulgaris—M. A. Peshkov and G. B. Rodionova	4	4	967
PHYTOPATHOLOGY			
Certain Biochemical Properties of Ustilago zeae (Beckm.) Unger in Relation to the Parasitic Capacity of its Various Strains—M. V. Gorlenko and L. V. Kuznetsov	8	5	1216
PLANT PHYSIOLOGY			
The Effect of Gibberellin and Day Length on Development of Dipsacus fullonum —N. I. Volodarskii and V. G. Potselueva	10	2	476
The Effect of Increased Concentration of Dissolved Oxygen on Apparent Rate of Photosynthesis in Scenedesmus obliquus—V. M. Kutyurin, M. V. Ulubekova, and L. P. Kazanskii	13	3	725
On the Auto-Oscillatory Nature of Water Metabolism in Bean Plants—V. G. Karmanov and V. N. Savin	16	4	970
On the Role of Xanthophylls in Oxygen Transfer in the Photosynthetic Process —D. I. Sapozhnikov, D. G. Alkhazov, Z. M. Ĕidel'man, N. V. Bazhanova, I. Kh. Lemberg, T. G. Maslova, A. B. Girshin, I. A. Popova, V. S. Saakov, O. F. Popova, and G. A. Shiryaeva	20	4	974
The Effect of Gibberellin on Internode Growth in Low-Growing Pea—K. Z. Gamburg and V. N. Mal'tseva	24	5	1214
The Effect of Cross-Pollination on Photosynthesis Rate—B. L. Dorokhov	26	6	1452
Incorporation of C^{14}-Urea by Potato Plants—A. T. Mokronosov and Z. G. Il'inykh	28	6	1454

Annual Subscription: $50 **Single Issue: $15** **Single Article: $7.50**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau Enterprises, Inc., 227 West 17th Street, New York City, United States of America.

CONTENTS (continued)

	PAGE	RUSS. ISSUE	RUSS. PAGE
VOLUME 155, 1964			
PLANT PHYSIOLOGY			
The Effect of Various Forms of Iodine on Plant Cells—T. A. Antropova, A. G. Lomagin, V. O. Mokhnach, and G. G. Shukhtina	33	1	224
The Effect of Sap from Maize Plants Grown at Various pH Levels on Growth of Carrot Callus—S. S. Andreenko, N. G. Potapov, and L. G. Kosulina	35	4	964
A Study of the Flow of Electrical Current in Deciduous and Coniferous Trees —S. G. Khodasevich	38	4	967
The Physiological Significance of Absorption of Water Vapor by Leaves—L. N. Babushkin	40	5	1216
The Effect of Light on Phosphorus Metabolism in Protococcus—S. S. Baslavskaya and E. I. Bystrova	43	5	1220
On the Change in Resting Potential of Individual Nitella flexilis Cells Induced by Light —G. A. Volkov	47	5	1224
The Effect of Magnesium Concentration on Pigment Synthesis in Scenedesmus quadricauda—I. M. Velichko	49	6	1463
VOLUME 156, 1964			
PLANT ECOLOGY			
An Experimental Investigation of the Mechanism of Succession of Forest Biogeocenoses in the Taiga Zone—V. G. Karpov	51	1	203
PLANT PHYSIOLOGY			
The Effect of Microelements on Plant Cytochrome Oxidase Activity—D. A. Aliev	54	1	207
The Shift in Carbohydrate Metabolism of Leaves of Wheat Plants in the Light Stage —O. A. Korchagina	56	1	209
The Effect of a Boron Deficiency on Adenosine Triphosphatase Activity in Sunflower —A. N. Maevskaya and Kh. A. Alekseeva	59	1	212
Utilization of Urea by Maize Roots—P. N. Pyl'neva and I. V. Mosolov	61	1	214
Growth and Flowering Characteristics of Apple Trees Derived from Crown and Root Tissues —E. S. Chernenko	65	1	218
The Effect of Intense Light Flashes on the Stability of the Photosynthetic Apparatus —T. N. Godnev, É. V. Khodasevich, and N. K. Akulovich	69	2	471
Accumulation of Iron in Leaves as a Function of Age—É. E. Khavkin	72	2	474
The Rate of Sap Ascent in Trees—Van Sha-Shén	76	3	706
The Problem of the Role of β-Indoleacetic Acid in Seed Dormancy—T. V. Daletskaya	78	3	708
The Effect of the Spectral Composition and Intensity of Radiant Energy on the Content of Chlorophyll in Relation to the Length of the Photoperiod—I. A. Shul'gin and L. A. Khodorenko	82	3	712
The Possibility of Extrastomatal Photosynthesis in Apple—B. L. Dorokhov	85	4	954
Physiological Activity of Certain Thiourea Derivatives and Their Chemical Structure —É. Karanov and G. Vasil'ev	88	4	957
Biosynthesis of Fe-Porphyrins in Roots in Connection with Plant Metabolism—B. A. Rubin, V. F. Gavrilenko, and N. V. Guzhova	92	4	961
Accumulation and Excretion of Alcohols by Roots Deprived of Oxygen—G. M. Grineva	95	5	1225

CONTENTS (continued)

	PAGE	RUSS. ISSUE	RUSS. PAGE
The Content of Volatile Acids in the Leaves and Seeds of Ripening Oil Plants —L. P. Zhdanova	100	5	1229
The Effect of Preplanting Irradiation of Potato Tubers with White and Concentrated Monochromatic Solar Light on the Synthesis and Composition of Anthocyanins, the Growth of the Green Mass and Yields—S. A. Stanko	103	5	1232

DOKLADY AKADEMII
NAUK SSSR
EDITORIAL BOARD

L. A. Artsimovich
A. N. Frumkin
(Assistant Editor)
B. A. Kazanskii
A. N. Kolmogorov
(Assistant Editor)
D. S. Korzhinskii
S. A. Lebedev
A. I. Oparin
(Editor-in-Chief)
E. N. Pavlovskii
L. I. Sedov
N. M. Strakhov
S. A. Vekshinskii

DOKLADY BOTANICAL SCIENCES

PROCEEDINGS of the ACADEMY OF SCIENCES of the USSR

A translation of **DOKLADY AKADEMII NAUK SSSR**
A publication of the Academy of Sciences of the USSR

© 1965 CONSULTANTS BUREAU ENTERPRISES, INC.
227 West 17th Street, New York 11, N. Y.

Volumes 157-159 July-December, 1964

CONTENTS

	PAGE	RUSS. ISSUE	RUSS. PAGE
VOLUME 157			
PLANT ANATOMY			
Formation and Structure of the Vascular System of English Oak (Quercus robur L.) Seedlings—G. P. Belostokov	109	5	1234
PLANT ECOLOGY			
Biological Productivity of the Main Types of Vegetation in the Northern Hemisphere of the Old World—L. E. Rodin and N. I. Bazilevich	114	1	215
PLANT EMBRYOLOGY			
Abnormalities of Tissue Differentiation in Hybrid Systems (Embryos and Endosperm of Wheat and Rye Hybrids)—E. V. Ivanovskaya	118	1	219
PLANT PHYSIOLOGY			
The Effect of Oxygen Concentration on Rate of Photosynthesis and Respiration in Aquatic Plants—V. M. Kutyurin, M. V. Ulubekova, and N. M. Nazarov	122	1	223
The Effect of Phosphorus Regime on Fractional Distribution and Amino Acid Composition of Proteins in Bean—Fam Suan Kkhae and B. P. Pleshkov	126	2	478
The Dynamics of Gibberellin-Like Substances in Relation to Photoperiod—M. Kh. Chailakhyan and V. N. Lozhnikova	130	2	482
On the Behavior of Radium in Plants—P. P. Vavilov, O. N. Popova, and R. P. Kodaneva	134	4	992
Carbohydrate Content and Cold Resistance of Higher Plant Cells—I. G. Zavadskaya, N. L. Fel'dman, and I. E. Kamentseva	137	4	995
Toward a Mathematical Theory of Photosynthesis of a Plant Cover—Yu. Ross	140	5	1239
On the Polysaccharides of Eremurus Roots—E. M. Afanas'eva, N. K. Shcherbukhina, V. D. Shcherbukhin, and B. N. Stepanenko	144	6	1470
The Effect of Light on the Isotopic Composition of Oxygen being Evolved by Plants—V. M. Kutyurin, I. V. Matveeva, N. M. Nazarov, and K. N. Semenyuk	148	6	1474
The Effect of Heat Hardening on Development of Injury Induced by Ultraviolet Light in Plant Cells—A. G. Lomagin	151	6	1477
The Significance of Manganese for the Light Reaction in Xanthophyll Conversion—D. I. Sapozhnikov and O. V. Sakharova	154	6	1480

Annual Subscription: $50 **Single Issue: $15** **Single Article: $7.50**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau Enterprises, Inc., 227 West 17th Street, New York City, United States of America.

CONTENTS (continued)

	PAGE	RUSS. ISSUE	RUSS. PAGE
VOLUME 158			
PHYTOPATHOLOGY			
The Effect on the Plant Cell of Toxin Produced by Botrytis cinerea—V. A. Aksenova ...	157	2	480
Immunochemical Studies of Proteins in Potato Varieties Resistant and Susceptible to Gall Formation—D. V. Lipsits	161	6	1443
Peroxidase Synthesis in Infected Cabbage Tissues as an Immunity Reaction—B. A. Rubin, T. M. Ivanova, and M. A. Davydova	165	6	1447
PLANT PHYSIOLOGY			
The Role of Protein Synthesis in Respiratory Shifts in Potato Disks—Yu. G. Molotkovskii and V. F. Kashuro	169	1	239
The Effect of Interrupted Illumination on Xanthophyll Interconversion during Greening of Etiolated Seedlings—Z. M. Eidel'man and A. S. Khodzhaev.....	172	1	242
An Electron Microscope Study of "Apparent Free Space" of Root Cells and its Role in Water Absorption—R. K. Salyaev	174	3	737
The Influence of Ultraviolet Radiation on the Dark Phase of the Actinorhythmic Reaction of Plants—E. S. Moshkov and A. P. Mikhilov	177	4	990
Pentose Phosphate Pathway of Plant Respiration in the Case of Soil Drought—A. A. Abrarov and N. S. Petinov.....	180	5	1209
On the Relationship Between Respiration and Heat Removal in Growing Leaves —V. N. Zholkevich, V. A. Kholler, and A. Ya. Rogacheva.....	184	5	1213
Resting Potential of Nitella flexilis Cells Filled with an Artificial Salt Solution —I. I. Gunar, A. M. Sinyukhin, and I. A. Ozolina	187	6	1430
The Effect of Light on Injury to Cucumis sativus L. Leaves Caused by Severe Cooling —N. M. Kislyuk.....	190	6	1434
New Anti-N Lectins (Phytagglutinins) Discovered by Systematic Search—M. I. Potapov ..	192	6	1437
Effect of Light Intensity on Development and Growth of Plants as it Depends on Length of Photoperiod and Temperature—I. A. Shul'gin and V. Z. Podol'nyi.....	194	6	1439
VOLUME 159			
PLANT ECOLOGY			
Geochemical Ecology and Evolutionary Variability of Plants—V. V. Koval'skii and N. S. Petrunina	199	5	1175
PLANT PHYSIOLOGY			
The Effect of Excess Soil Moisture on Barley at Various Stages of Development —A. Z. Aleksandrova and F. D. Skazkin	203	1	205
The Possible Participation of Linolenic Acid in Photosynthesis—A. G. Vereshchagin, G. V. Novitskaya, and A. V. Kaverina	206	1	208
Growth Properties of Nitriles of Benzotrichloride—V. P. Lobov	208	1	210
Respiration of Mitochondria from the Various Growth Zones of Lupine Root —N. G. Potapov and T. S. Salamatova	209	1	211
Rate of Water Exchange in Dormant Seeds—B. B. Vartapetyan	213	2	452
The Effect of Molybdenum on Nitrate Reductase Activity in Cauliflower in Relation to Conditions of Nitrogen-Phosphate Nutrition—V. V. Yakovleva and L. N. Sobachkina	216	2	455
The Effect of Ionizing Radiation on the Photoperiodic Response of Perilla Plants —V. N. Savin	218	3	676

On the Polarity of Organ Formation in Peach Cuttings—M. Kh. Chailakhyan and T. V. Nekrasova. 222 4 934
Flowering in Graft Hybrids with Both Components in the Vegetative Stage —M. Kh. Chailakhyan. 226 6 1421
AUTHOR INDEX, Vols. 154-159, 1964 231
TABLES OF CONTENTS, Vols. 154-159, 1964. 233